

DER and Inverter-based Resources Subcommittee – EDC Workshop

WebEx Only

December 9, 2021

3:00 p.m. – 5:00 p.m. ET

Administration (3:00 – 3:05)


1. Scott Baker opened the meeting and reviewed the agenda.
2. Hamad Ahmed reviewed the meeting participation guidelines.

Order 2222 – EDC Coordination (3:05 – 4:45)

3. PJM and electric distribution company staff discussed the data needs during the registration process for properly associating individual DER and a DER Aggregation with the appropriate pricing node in the PJM market model.
 - Danielle Croop, PJM, discussed registration data for DER. Multiple Stakeholders providing insight and also discussed location requirements. Suggestions were made that the EDC and TO coordinate providing the bus ID to PJM, and that PJM fill in the appropriate pnode for the DER / DER Aggregation.
 - Chris Wehr and Mike Thorn, First Energy, reviewed scenarios of different DER connected to a utility distribution and discussed obstacles with different use cases.

Action items (4:45 – 5:00)

4. The facilitation team reviewed action items from the meeting and took requests for future agenda items.
 - Stakeholders requested more use case examples during next DIRS.
 - Stakeholder requested future follow-up on two items: 1) future discussion on distribution utility relationship framework with PJM; and 2) how existing WMPA or ISA generators would potential 'convert' to the DERA model.

| Future Meeting Dates and Materials | | | Materials Due to Secretary  | Materials Published |
|---|--------------|----------|--|---------------------|
| Date | Time | Location | 5 p.m. | 4 p.m. |
| December 21, 2021 | 9:00 – 4:00 | WebEx | December 13, 2021 | December 16, 2021 |
| January 5, 2022 | 9:00 – 3:00 | WebEx | December 27, 2021 | December 30, 2021 |
| January 7, 2022 – EDC Coordination Workshop | 1:00 – 4:00 | WebEx | December 29, 2021 | January 4, 2021 |
| January 18, 2022 | 9:00 – 12:00 | WebEx | January 7, 2021 | January 12, 2021 |
| February 25, 2022 | 9:00 – 4:00 | WebEx | February 16, 2022 | February 22, 2022 |
| March 28, 2022 | 9:00 – 4:00 | WebEx | March 18, 2022 | March 23, 2022 |

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|-----------------------|-------------|-------|-----------------------|-----------------------|
| <i>April 29, 2022</i> | 9:00 – 4:00 | WebEx | April 22, 2022 | April 27, 2022 |
| <i>May 31, 2022</i> | 9:00 – 4:00 | WebEx | May 23, 2022 | May 26, 2022 |
| <i>June 23, 2022</i> | 9:00 – 4:00 | WebEx | June 15, 2022 | June 20, 2022 |

Author: Hamad Ahmed

WebEx Meeting Attendance

| Name | Company Name | Sector |
|--------------------|--|--------------------|
| Hamad Ahmed | PJM Interconnection | None |
| William Allen | Commonwealth Edison Company | Transmission Owner |
| David Anders | PJM Interconnection | None |
| Jeff Baker | PJM Connect | |
| Scott Baker | PJM Interconnection | None |
| George Beam | PPL Elec Utilities Corp dba PPL Utilities (PPL POLR Small C&I) | Transmission Owner |
| Madalyn Beban | PJM Interconnection | None |
| Jim Benchek | FirstEnergy Corporation | |
| Matthew Bernstein | PJM Interconnection | None |
| Tyler Berton | AEP Appalachian Transmission Company, Inc. | Transmission Owner |
| Donnie Bielak | PJM Interconnection | None |
| Michael Borgatti | PJM Committee Voting Generic Account | |
| John Borkoski | MD Public Service Commission | |
| Joe Bowring | Monitoring Analytics | |
| Glen Boyle | PJM Interconnection | None |
| Aaron Breidenbaugh | Centrica Business Solutions Optimize, LLC | Other Supplier |
| John Brodbeck | EDP Renewables North America LLC | Generation Owner |
| Michael Bryson | PJM Internal | |
| Kevin Bunch | EDF Trading North America, LLC | Other Supplier |
| Kevin Burns | Open Access Technology International, Inc. | None |
| Zachary Callen | Illinois Commerce Commission | |
| Bruce Campbell | Enerwise Global Technologies, LLC | Other Supplier |
| Sean Chang | Shell Energy North America (US), L.P. | Other Supplier |
| Mahila Christopher | Public Utilities Commission of Ohio | |
| Roseanne Circelli | Public Service Electric & Gas Company | Transmission Owner |
| Chandra Colaresi | Enerwise Global Technologies, LLC | Other Supplier |

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| Nancy Connelly | Duke Energy Ohio, Inc. | Transmission Owner |
| James Conrad | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |
| Danielle Croop | PJM Interconnection | None |
| Jeff Currier ES | Dominion Virginia Power | Transmission Owner |
| Kerinia Cusick | Center for Renewables Integration | |
| Louis D'Alessandris | American Transmission Systems, Inc. | Transmission Owner |
| Elizabeth Davis | PJM Interconnection | None |
| James Davis | Dominion Energy Generation Marketing, Inc. | Generation Owner |
| Joseph DeLosa | New Jersey Board of Public Utilities | |
| Brett Denby | Northern Virginia Electric Cooperative (NOVEC) | Electric Distributor |
| Thomas DeVita | PJM Interconnection | None |
| Laura DiNicola | firstenergy | |
| Mamadou Diong | Dominion Virginia Power | Transmission Owner |
| Ryan Dolan | Dayton Power & Light Company (The) (EDC) | Transmission Owner |
| Christin Domian | Duquesne Light Company | Transmission Owner |
| Sophia Dossin | Invenergy, LLC | Generation Owner |
| Jere Downs | PJM Connect | |
| Rick Drom | Rick Drom | |
| Chuck Dugan | East Kentucky Power Cooperative, Inc. | Transmission Owner |
| Nicolae Dumitriu | PJM Interconnection | None |
| Rachel Elkins | American Transmission Systems, Inc. | Transmission Owner |
| David Ellis | Public Service Electric & Gas Company | Transmission Owner |
| zhenyu fan | PJM Interconnection | None |
| Guy Filomena | Customized Energy Solutions, Ltd. | None |
| Brian Fitzpatrick | PJM Interconnection | None |
| Kenneth Foladare | Geenex Solar LLC | Other Supplier |
| Adrien Ford | Old Dominion Electric Cooperative | Electric Distributor |
| Jill Gates | PJM Interconnection | |
| Terry Gates | Appalachian Power Company (AEP Generation) | Transmission Owner |
| Suzanne Glatz | PJM Interconnection | None |

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| Craig Glazer | PJM Interconnection | None |
| Michele Greening | PJM Interconnection | None |
| Albert Grisolia | Public Service Electric & Gas Company | Transmission Owner |
| Erik Hanser | Michigan Public Service Commission | |
| Gary Hartman | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |
| Thomas Hauske | PJM Interconnection | None |
| Chad Heitmeyer | Appalachian Power Company (AEPSCO) | Transmission Owner |
| Rebecca Hilderbrand | EY | |
| Tom Hoatson | West Deptford Energy, LLC | Generation Owner |
| Lynn Marie Horning | Customized Energy Solutions, Ltd. | None |
| John Horstmann | Dayton Power & Light Company (The) | Transmission Owner |
| Steven Hughes | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |
| Gerit Hull | American Municipal Power, Inc. | Electric Distributor |
| Inwook Hwang | Baltimore Gas and Electric Company | Transmission Owner |
| Tom Hyzinski | gtppghyzinsk | |
| Arthur Iler | Indiana Office of Utility Consumer Counselor | |
| Ali Ipakchi | Open Access Technology International, Inc. | None |
| Farhad Jamshidian | OSI Digital Grid Solutions | |
| Gina Jardot | NRG Curtailment Solutions, Inc. | Other Supplier |
| William Jett | Duke Energy Business Services LLC | Transmission Owner |
| Bethany Johnson | PPL Electric Utilities Corp. dba PPL Utilities (TO) | Transmission Owner |
| Carl Johnson | Customized Energy Solutions, Ltd. | None |
| Nathaniel Johnson | Appalachian Power Company (AEP Generation) | Transmission Owner |
| David Johnston | Other | |
| Ibrahima Kalle | POWER Engineers, Inc | |
| Clark Kaml | Power System Engineering | |
| Brian Kauffman | Enel X North America, Inc. | Other Supplier |
| Stephen Kelly | Brookfield Renewable Trading and Marketing LP (BSMH) | Other Supplier |
| Janessa Kent | Duquesne Light Company | Transmission Owner |
| Bakhtawar Khan | Jersey Green Energy LLC | Other Supplier |

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| Brady Klein | EnergyHub | |
| Nicolas Koehler | Appalachian Power Company (AEP Transmission) | Transmission Owner |
| George Kogut | New York Power Authority | Other Supplier |
| Takis Laios | Appalachian Power Company (AEP Transmission) | Transmission Owner |
| Andrew Levitt | PJM Interconnection | None |
| Cecilia Liang-Nicol | Allegheny Power (MonPwr Gen) | |
| Steven Lieberman | American Municipal Power, Inc. | Electric Distributor |
| Glenn Long | PJM Interconnection | None |
| Xi Lu | Ford Motor Company | |
| David Mabry | McNees Wallace & Nurick LLC | |
| Doug Matheson | Enel X North America, Inc. | Other Supplier |
| Brian McArdle | NextEra Energy Marketing, LLC | Other Supplier |
| John McCombIII | PJM Interconnection | None |
| Christian McDewell | Pennsylvania Public Utility Commission | |
| Paul McGlynn | PJM Interconnection | None |
| Timothy McInerney | Commonwealth Edison Company | Transmission Owner |
| Justin McNeil | Kentucky Public Service Commission | |
| John Metz | University of Delaware | |
| Sharon Midgley | Exelon Business Services Company, LLC | Transmission Owner |
| John Miller | Calico Energy | |
| Alan Mok | Duke Energy Kentucky, Inc. | Transmission Owner |
| Terrence Moran | Public Service Electric & Gas Company | Transmission Owner |
| Koushy Nareshkumar | Potomac Electric Power Company | Electric Distributor |
| Mike Nester | Dominion Virginia Power (EDC) | Transmission Owner |
| Nathaniel Nichols | PECO Energy Company | Transmission Owner |
| Chris Norton | American Municipal Power, Inc. | Electric Distributor |
| Cynthia Nowell | Potomac Electric Power Company | Electric Distributor |
| Michael Olaleye | PJM Interconnection | None |
| Brock Ondayko | AEP Energy Partners, Inc. (AEP Gen Resources) | Transmission Owner |
| Sara Parkison | University of Delaware | |

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| keyurbhai patel | PJM Interconnection | None |
| John Peoples | Duquesne Light Company | Transmission Owner |
| Darlene Phillips | PJM Interconnection | None |
| Christopher Pilon | PJM Interconnection | None |
| Greg Poulos | PJM Committee Voting Generic Account | |
| Nicholas Pratt | PPL Electric Utilities Corp. dba PPL Utilities (TO) | Transmission Owner |
| Ruth Price | Delaware Division of the Public Advocate | |
| Farrokh Rahimi | Open Access Technology International, Inc. | None |
| Ryann Reagan | New Jersey Board of Public Utilities | |
| Jim REILLY | Reilly Associates | |
| Tomas Rodriguez | Organization of PJM States, Inc. | |
| Alexa Rooney | PPL Electric Utilities Corp. dba PPL Utilities (TO) | Transmission Owner |
| Alex Rosenblatt | Duquesne Light Company | Transmission Owner |
| James Rouland | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |
| Amanda Rumsey | PPL Electric Utilities Corp. dba PPL Utilities (TO) | Transmission Owner |
| Tom Rutigliano | Natural Resources Defense Council | |
| Jonathan Sasser | Customized Energy Solutions, Ltd. | None |
| David Scarp | Calpine Energy Services, L.P. | Generation Owner |
| Kenneth Schisler | Enerwise Global Technologies, LLC | Other Supplier |
| David Schmitt | New Jersey Board Of Public Utilities | |
| CONNIE SCHROEDER | Dominion Virginia Power | Transmission Owner |
| Bahaa Seireg | Rockland Electric Company | Transmission Owner |
| William Sharkazy III | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |
| Evan Shearer | Duke Energy Business Services LLC | Transmission Owner |
| Mohit Singh | Commonwealth Edison Company | Transmission Owner |
| James Sorrels | AEP Appalachian Transmission Company, Inc. | Transmission Owner |
| Rebecca Stadelmeyer | PJM Interconnection | None |
| Vincent Stefanowicz | PJM Interconnection | None |
| Alexander Stern | Public Service Electric & Gas Company | Transmission Owner |

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| Heather Svenson | Public Service Electric & Gas Company | Transmission Owner |
| Brad Swalwell | Tangent Energy Solutions, Inc. | Other Supplier |
| Eric Swanger | Appalachian Power Company (AEP Transmission) | Transmission Owner |
| Rory Sweeney | GT Power Group, LLC | None |
| Kristin Swenson | Midcontinent Independent Sys Op, Inc. (CTS) | |
| Robert Taylor | Commonwealth Edison Company | Transmission Owner |
| Zelalem Tekle | Bath County Energy, LLC | Generation Owner |
| Kevin Thundiyl | Exelon Generation Co., LLC (NEV_XLON) | Generation Owner |
| Andrea Tighe | CAPS | |
| James Tobia | Jersey Central Power & Light Company | Transmission Owner |
| Catherine Tyler | Monitoring Analytics | |
| Jim Waight | Siemens Industry, Inc. | Other Supplier |
| Jerry Warchol | Dominion Virginia Power (EDC) | Transmission Owner |
| Kathleen Wehnes | Maryland Department of the Environment | |
| Christopher Wehr | Ohio Edison Company (EDC) | Electric Distributor |
| Christopher Werner | Appalachian Power Company (AEP Transmission) | Transmission Owner |
| Matthew Wharton | Guidehouse Inc. | None |
| Jeffrey Whitehead | GT Power Group | |
| Bernie Whitmoyer | Jersey Central Power & Light Company | Transmission Owner |
| Amy Willey | Delaware Public Service Commission | |
| De Andre Wilson | Maryland Public Service Commission | |
| Damon Xenopoulos | Other | |
| Jin An Yi | jinan | |
| Kyungjin Yoo | Monitoring Analytics | |
| Vivian Younes | PPL Electric Utilities Corp. dba PPL Utilities (LSE) | Transmission Owner |

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